

PINUS KORAIENSIS Sieb. & Zucc.

BY JOSIAH HOOPES.

Through the kindness of Chief Eng. G. W. Melville, U. S. N., I have enjoyed an opportunity of studying some excellent specimens of this interesting species of pine, collected by him during the late voyage of the unfortunate "Jeannette" to the Arctic regions. These specimens consist of a branch clothed with foliage, two immature cones, and a few mature seeds, and were collected in the District of Tuknansk, in Eastern Siberia. It was seen along the banks of the Lena, Yenisei and Obi Rivers, forming a tree about thirty feet in height, with a trunk about ten inches in diameter at base. The collector further states that it fruits abundantly, and "the edible seeds are used by the natives as food, and by travelers as nuts." It is interesting to note that this heretofore comparatively rare species has a wider habitat, and is more numerous than has generally been supposed, although reported as having been found up to the Amoor River, which takes its rise in the mountain range dividing the Lena from the Amoor; hence it was reasonable to suppose it was more generally distributed throughout Siberia and adjacent islands. Siebold found it in Kamtschatka; and various authors have described it in the list of Japanese Coniferæ, but only in the latter as an introduced species, where it is said to be quite rare.

Pinus Koraiensis is placed by Dr. Engelmann, in his recent revision of the genus *Pinus*, in the subsection Cembrae, of his first section, Strobis. It is distinguishable from the section Eustrobi by reason of the parenchymatous ducts, and with leaves sparingly serrulate, scarcely denticulate at tip. This nut-bearing pine is well marked throughout, and especially so in its cones and seeds, the latter being wingless, subangulate, flatly compressed, leaving on both sides of the scale when removed, remarkably deep impressions. The cones are very distinctive, with long reflexed scales, terminating in an abrupt mucro-like apex. The leaf-characters in the specimens before me coincide with the published description given by Dr. Engelmann, in relation to the absence (or nearly so) of hypoderm or strengthening-cells, as well as in other peculiar features of the Cembran group.

Murray, in his "Pines and Firs of Japan," records its height from ten to twelve feet, yet Parlatore, on the authority of Perfetti, gives it at "sometimes thirty to thirty-three feet." The latter is corroborated by Chief Eng. Melville, thus showing conclusively that it is a true northern species, attaining only its greatest size near the extreme limits of arboreal vegetation; and yet, like all other species of nut-pines, it never forms a large-sized tree.

This species will no doubt make a valuable addition to our list of ornamental Conifers, as its hardiness is unquestioned, and the foliage is as attractive as any other of the White Pine group, unless we except the *P. excelsa*. In England it has proven reliable, and with us the small plants show evidences of success.